

Patent marked 54

(19) Japanese Patent Bureau
(JP)

(12) OFFICIAL BULLETIN OF
PATENT PRESENTED TO
THE PUBLIC (A)

(11) APPLICATION NUMBER
1994 6- 114037

(43) Date of publication:
26/Apr/94

51 - Int. Cl. Identification number Regulation number within the bureau F1

A 61 B	5/07	8932-4C
	1/00 3 2 0	B 3119-4C
	8/12	7507-4C
G 02 B	23/24	C 9317-2K

Judged claim. Last claim. Number of claims - 2 (total - 8 pages)

(21) Application number: 1992-3 - 266347

(71) Applicant:

00000376
Olympus Ltd.
Tokyo

(22) Date of application: 19/Feb/91

(72) Inventor:

Kido Masahiro [?]
Tokyo, Olympus Ltd.

(72) Inventor:

Mizuno Hitachi
Tokyo, Olympus Ltd.

(72) Inventor:

Takayama Shuichi
Tokyo, Olympus Ltd.

(74) Primary examiner: Suzue Takehiko

(54) NAME OF THE INVENTION: CAPSULE DEVICE FOR MEDICAL USE

(57) ABSTRACT

PURPOSE:

The purpose of this invention is to supply a capsule device for medical use that is easy to insert into cavities, causes little suffering to the patient, and is able to carry out many functions.

CONSTITUTION:

The capsule is inserted into the body cavity, and performs diagnosis and medical treatment. There are many capsules 2a, 2b ... that have many functions. Each capsule 2a, 2b ... has a slit (5) to insert guide wire (4) for guidance within the body, around the said guide pipe there is micromotor (6) and there is a device for coupling each capsule 2a, 2b ... on condition that the functions of the said capsules in the body move.

(2)

EXTENT OF THE CLAIM OF THE PATENT:

CLAIM 1: There are a number of capsules; they have measurement and treatment functions. The capsule is inserted into a body cavity, and there are devices in the capsules for diagnosis and medical treatment. In each capsule, there is a slit for guidance inside the body, and a device to lead the capsule inside the body. The medical capsule is special in that it has a device that connects each capsule so that the function moves in the body.

CLAIM 2: In the compact medical capsule device, which is easily inserted into the body and which performs the diagnosis, there are a number of sensors for diagnosis and these sensors, while inserted in the body, can perform many diagnostic functions.

0027

EFFICACY OF THE INVENTION:

As was explained above, this invention is easy to insert into the body cavity, the patient experiences minimal pain, and there are many functions that it can perform.

BRIEF DESCRIPTIONS OF THE DRAWINGS:

Fig. 1: This view briefly describes the connection status of the capsule device for medical use in presentation number 1 of the invention.

Fig. 2: Brief description of the medical capsule device system in the same presentation no. 1.

Fig. 3: Description of the use of the medical capsule device in the same presentation no. 1.

Fig. 4: Description of the use of the bend of the medical capsule device in the same presentation no. 1.

Fig. 5: Squint view that shows a variation to the above-mentioned presentation no. 1.

Fig. 6: Squint view of the medical capsule device showing example no. 2 of the invention.

Fig. 7: Squint view showing the development of the capsule of example no. 2 of the invention.

Fig. 8: Cross section of the capsule for medical use mentioned above.

Fig. 9: Squint section of the capsule showing example no. 3 of the invention.

Fig. 10: Squint section of construction of the capsule for medical use showing example no. 3 of the invention.

Fig. 11: Cross section of the capsule for medical use mentioned above.

Fig. 12: Side view showing the connecting part of the capsule for medical use of example no. 3 of the invention.

Fig. 13: Side view showing a variation of the connecting part in the capsule of example no. 3.

Fig. 14: Squint view of the capsule for medical use showing example no. 4 of the invention.

Fig. 15: Squint view of the capsule for medical use showing the same example no. 4.

Fig. 16: Cross section of the capsule for medical use showing example no. 4 of the invention mentioned above.

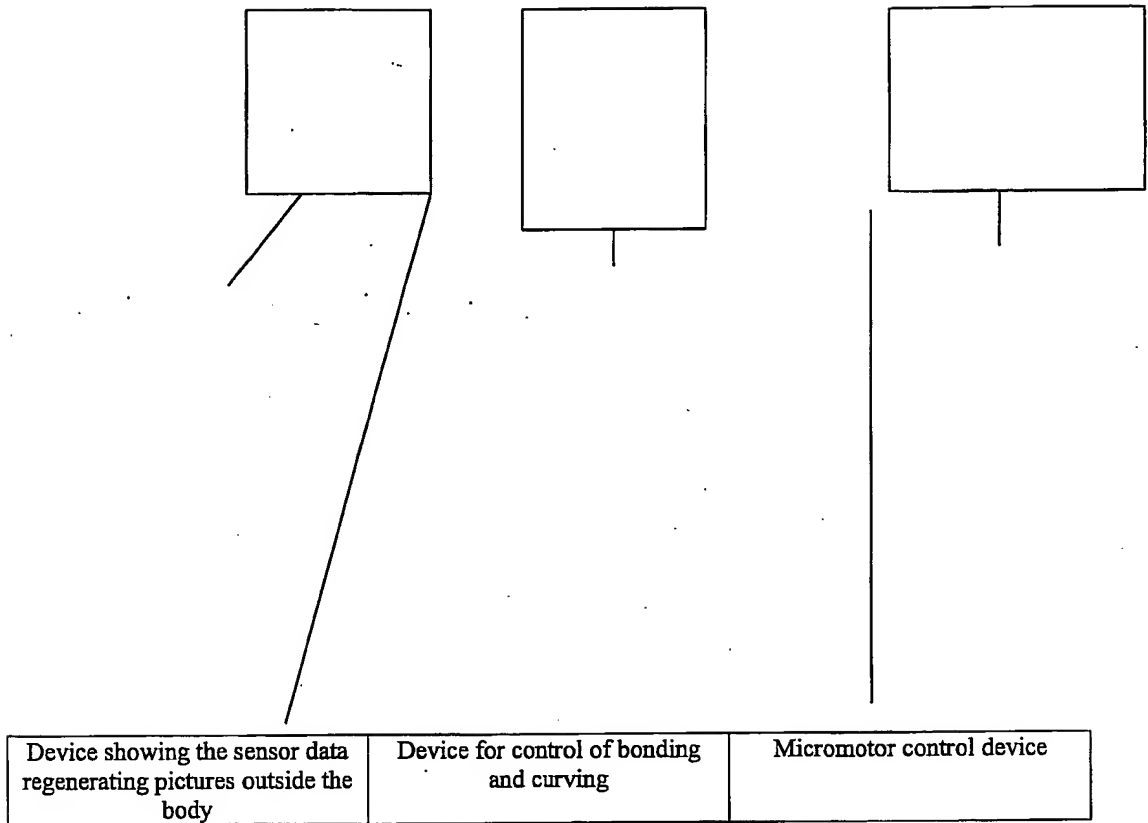
Fig. 17: Partial cross section of the capsule for medical use showing example no. 4 of the invention mentioned above.

FIGURES LEGEND:

- 1 medical capsule device
- 2a photographing element capsule
- 2b sensor capsule
- 2c amplifying, transmitting circuit capsule
- 2d bend [or curve] control capsule
- 2e source of electricity capsule
- 2h capsule for photographing side images
- 2I high frequency adjustment capsule
- 2j laser capsule for management
- 3 body of the capsule
- 4 guide wire
- 5 guiding slit
- 6 micromotor for the running of the capsule
- 16 connecting, bending part
- 22 magnetic body
- 23 electromagnet
- 40 body of the capsule
- 41 base
- 42 memory sheet made of resin to register the shape
- 51 supersonic wave oscillation element
- 52 unit
- 55 wire
- 60 body of the capsule
- 61 base
- 62 sheet
- 63 pressure sensor

(6)

Under the drawing:



(7)

Under the drawings:

Continued from the front page:

(72) Inventor: TATSUMI Y.
Olympus, Tokyo
(72) Inventor: FUTAKI T.
Olympus, Tokyo
(72) Inventor: YOSHINO KENJI
Olympus, Tokyo
(72) Inventor: ISHIKAWA MEIBUN
Olympus, Tokyo
(72) Inventor: YAMAGUCHI T.
Olympus, Tokyo
(72) Inventor: UEDA Y.
Olympus, Tokyo